

MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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INTRODUCTION.

The REVIEW for July, 1896, is based on 2,746 reports from stations occupied by regular and voluntary observers, classified as follows: 149 from Weather Bureau stations; 33 from U. S. Army post surgeons; 2,421 from voluntary observers; 33 from Canadian stations; 1 from Hawaii; 96 received through the Southern Pacific Railway Company; 14 from U. S. Life-Saving stations. International simultaneous observations are received from a few stations and used together with trustworthy newspaper extracts and special reports.

The WEATHER REVIEW is prepared under the general editorial supervision of Prof. Cleveland Abbe. Unless otherwise specifically noted, the text is written by the Editor, but the statistical tables are furnished by Mr. A. J. Henry, Chief of the Division of Records and Meteorological Data. Special acknowledgment is made of the hearty cooperation of Prof. R. F. Stupart, Director of the Meteorological Service of the Dominion of Canada, Mr. Curtis J. Lyons, Meteorologist to the Government Survey, Honolulu, and of Dr. Mariano Bárcena, Director of the Central Meteorological Observatory of Mexico.

CLIMATOLOGY OF THE MONTH.

GENERAL CHARACTERISTICS.

The pressure has been high off the south Atlantic Coast, and also off the north Pacific Coast, and the interior low pressure has been about normal. Consequently the distribution of winds has also been normal and the mean temperatures for the month have shown no large abnormality. There was a general excess of temperature on the Pacific Coast and a general deficiency in the interior of the continent. Although several stations on the north Pacific and Plateau regions reported the highest mean temperature on record, yet the greatest excess was but 4.2°. An unusual number of stations reported heavy local rains and consequent disastrous floods over very restricted areas; the greatest departures from normal precipitation at regular stations of the Weather Bureau were the excesses in Kansas, Missouri, Arkansas, Illinois, Mississippi, Ohio, Kentucky, West Virginia, Louisiana, and Alabama. An injurious drought was reported from limited portions of Arkansas, Louisiana, Mississippi, and Texas, also, in Washington and Oregon.

ATMOSPHERIC PRESSURE.

[In inches and hundredths.]

The distribution of mean atmospheric pressure reduced to sea level, as shown by mercurial barometers, not reduced to standard gravity, and as determined from observations taken daily at 8 a. m. and 8 p. m. (seventy-fifth meridian time), is shown by isobars on Chart IV. That portion of the reduction to standard gravity that depends on latitude is shown by the numbers printed on the right-hand border.

The mean pressures during the current month were highest on the coast of the South Atlantic States and Washington. They were lowest in Arizona and southern California, and low in the Gulf of St. Lawrence.

The highest were: Charleston, 30.16; Jacksonville, Jupi-

ter, and Tampa, 30.15; Wilmington and Savannah, 30.14. The mean for Bermuda was 30.27.

The lowest were: Yuma, 29.78; Prince Albert, 29.82; Fresno, Phoenix, and Red Bluff, 29.84; Grindstone Island, 29.85; Sacramento, 29.86; Father Point, 29.87; Medicine Hat, 29.89.

As compared with the normal for July, the mean pressure was in excess throughout the country east of the Rocky Mountains; in the South Atlantic Coast States it was greatest. It was slightly deficient over the Pacific States. The greatest excesses were: Charleston, 0.12; Wilmington, 0.11; Kittyhawk, Hatteras, Augusta, Jacksonville, Edmonton, and Minnedosa, 0.10. The greatest deficits were: Portland, Oreg., Walla Walla, and Eureka, 0.04; Sacramento and Fresno, 0.03.

As compared with the preceding month of June, the pressures, reduced to sea level show a rise everywhere, except a slight fall on the Pacific Coast. The greatest rises were: Wilmington, Charleston, Jacksonville, Tampa, and Bermuda, 0.11; Hatteras, Savannah, Jupiter, Atlanta, Montgomery, Mobile, New Orleans, Galveston, Palestine, Abilene, Santa Fe, and Edmonton, 0.10. The greatest falls were: Portland, Oreg., Walla Walla, and Roseburg, 0.08; Eureka, 0.07.

AREAS OF HIGH AND LOW PRESSURE.

By Prof. H. A. HAZEN.

The general conditions of the month of July have been as follows: A persistent low pressure to the north of Montana from which 10 of the 11 storms of the month have taken their origin. Four of the high areas of the month have also originated to the north of Montana, but these have been of very slight magnitude. There were 11 storms and 7 high areas of sufficient definiteness to be traced, and their trajectories, with barometer reading twice each day, will be found on Charts I and II, respectively. Some of the more prominent facts relating to the place of origin, velocity of apparent motion,